FIG. 1

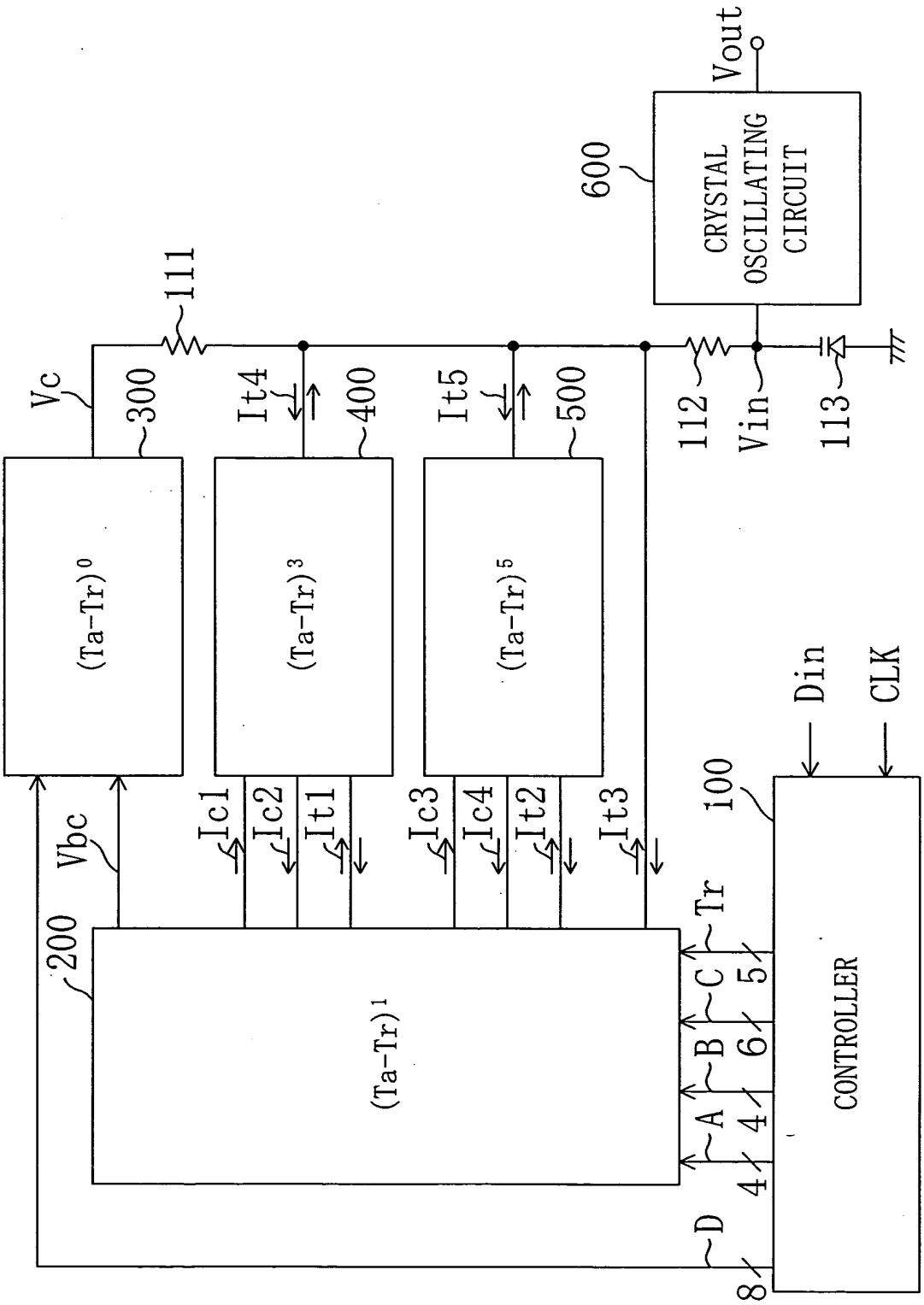
Vout
600
CRYSTAL OSCILLATING CIRCUIT
111
Vc
300
It4
400
It5
500
112
Vin
113
(Ta-Tr)0
(Ta-Tr)3
(Ta-Tr)5
Din
CLK
Ic1
Ic2
It1
Ic3
Ic4
It2
It3
100
Vbc
200
Tr
(Ta-Tr)1
C
5
B
6
A
4
4
D
8
CONTROLLER

FIG. 2

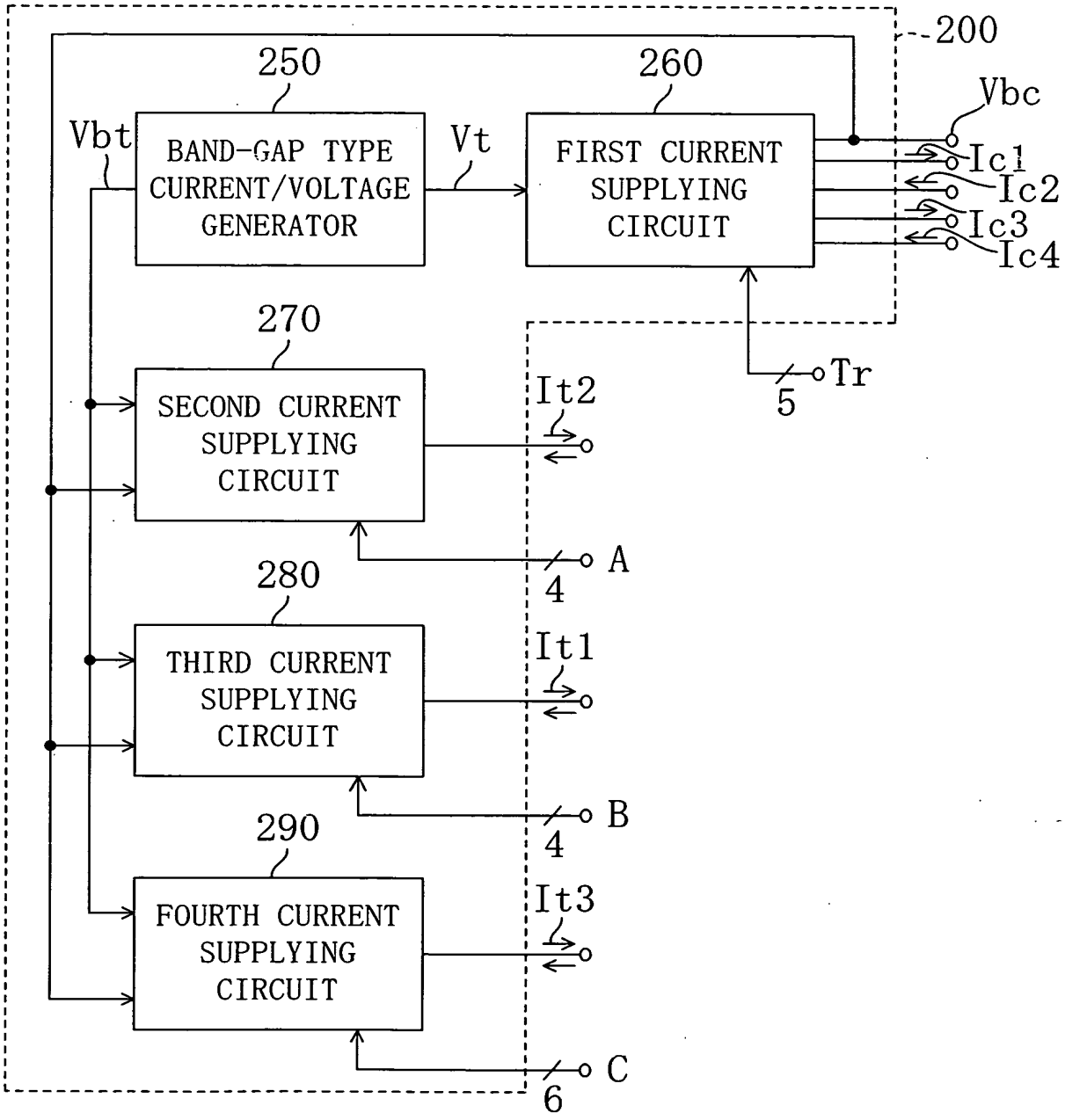
200
250
260
Vbc
Vbt
BAND-GAP TYPE CURRENT/VOLTAGE GENERATOR
Vt
FIRST CURRENT SUPPLYING CIRCUIT
Ic1
Ic2
Ic3
Ic4
270
SECOND CURRENT SUPPLYING CIRCUIT
It2
Tr
5
A
4
280
THIRD CURRENT SUPPLYING CIRCUIT
It1
B
4
290
FOURTH CURRENT SUPPLYING CIRCUIT
It3
C
6

FIG. 3

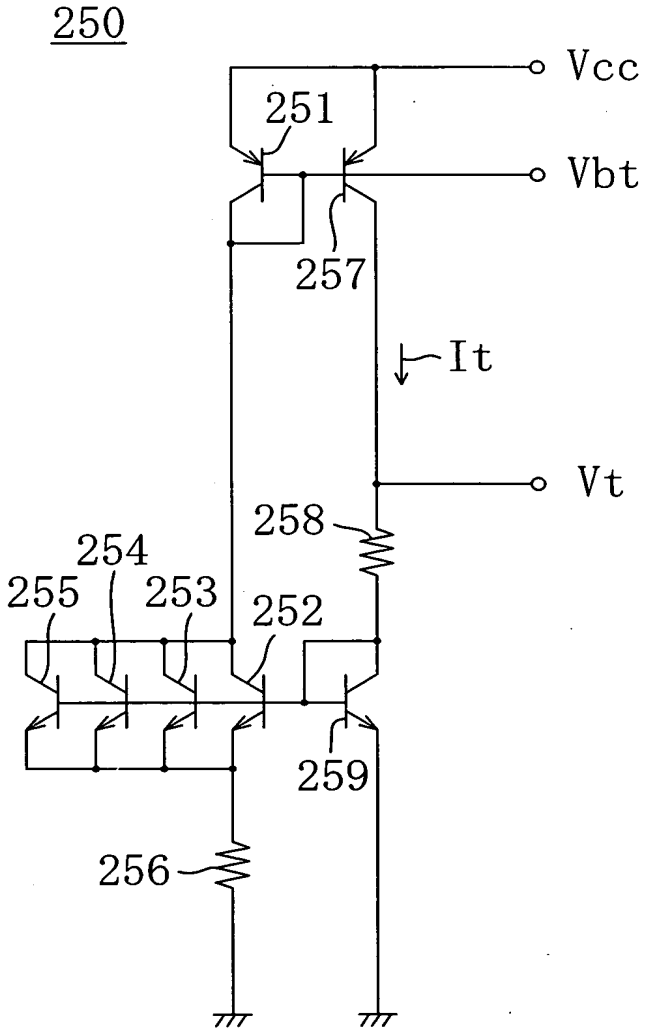

FIG. 4

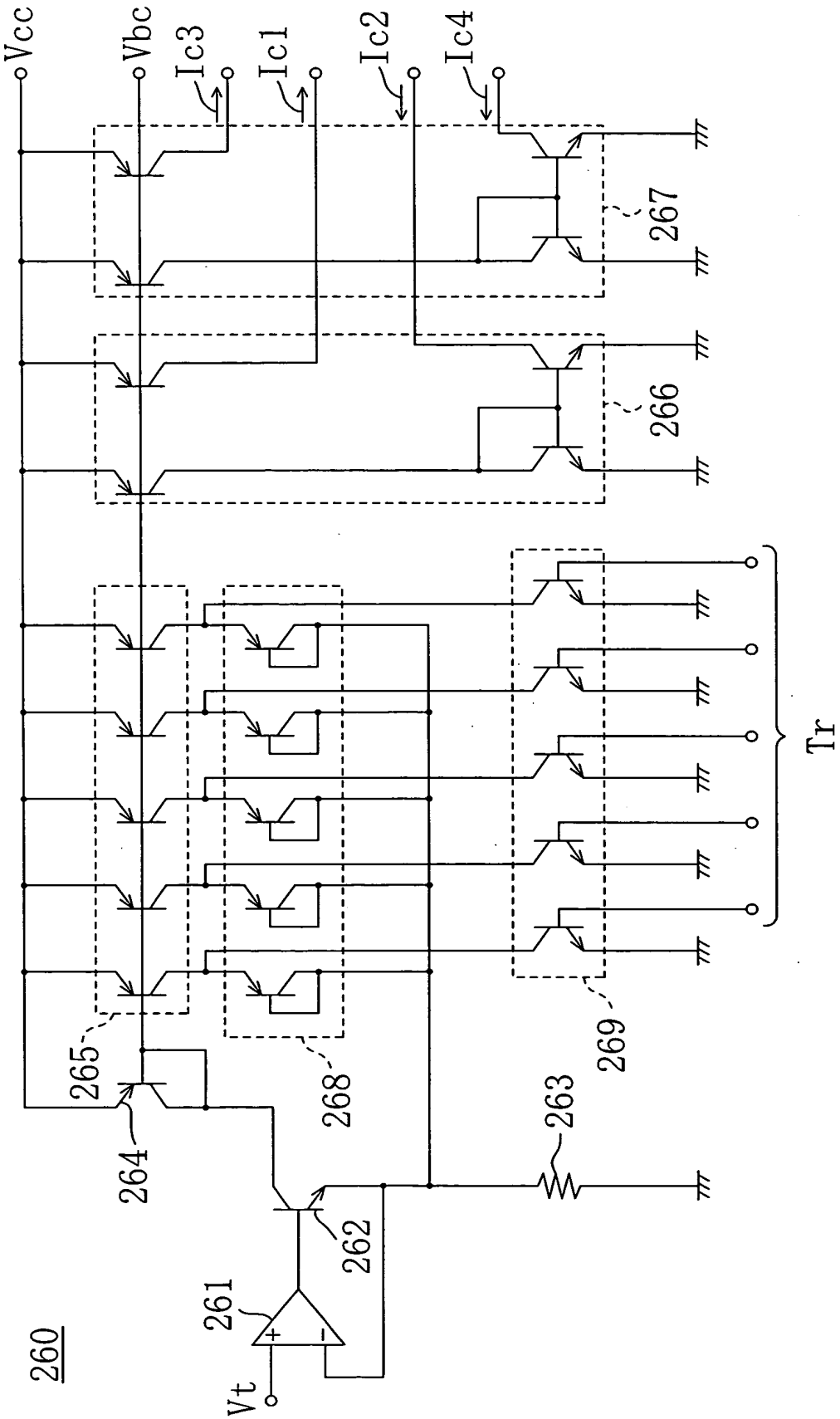
260
Vcc
Vbc
Ic3
Ic1
Ic2
Ic4
267
266
Tr
265
268
269
263
264
262
261
Vt

FIG. 5

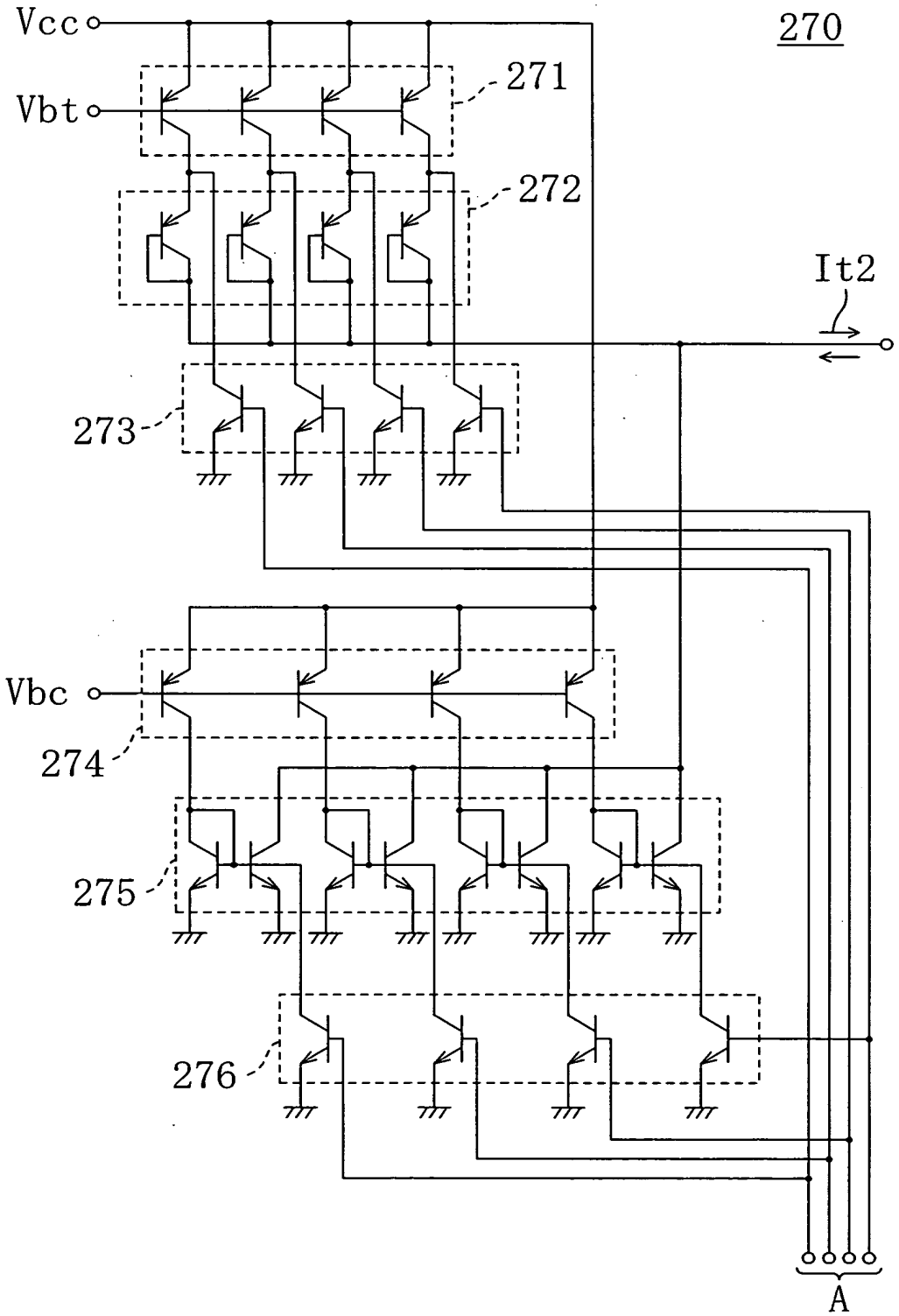

FIG. 6

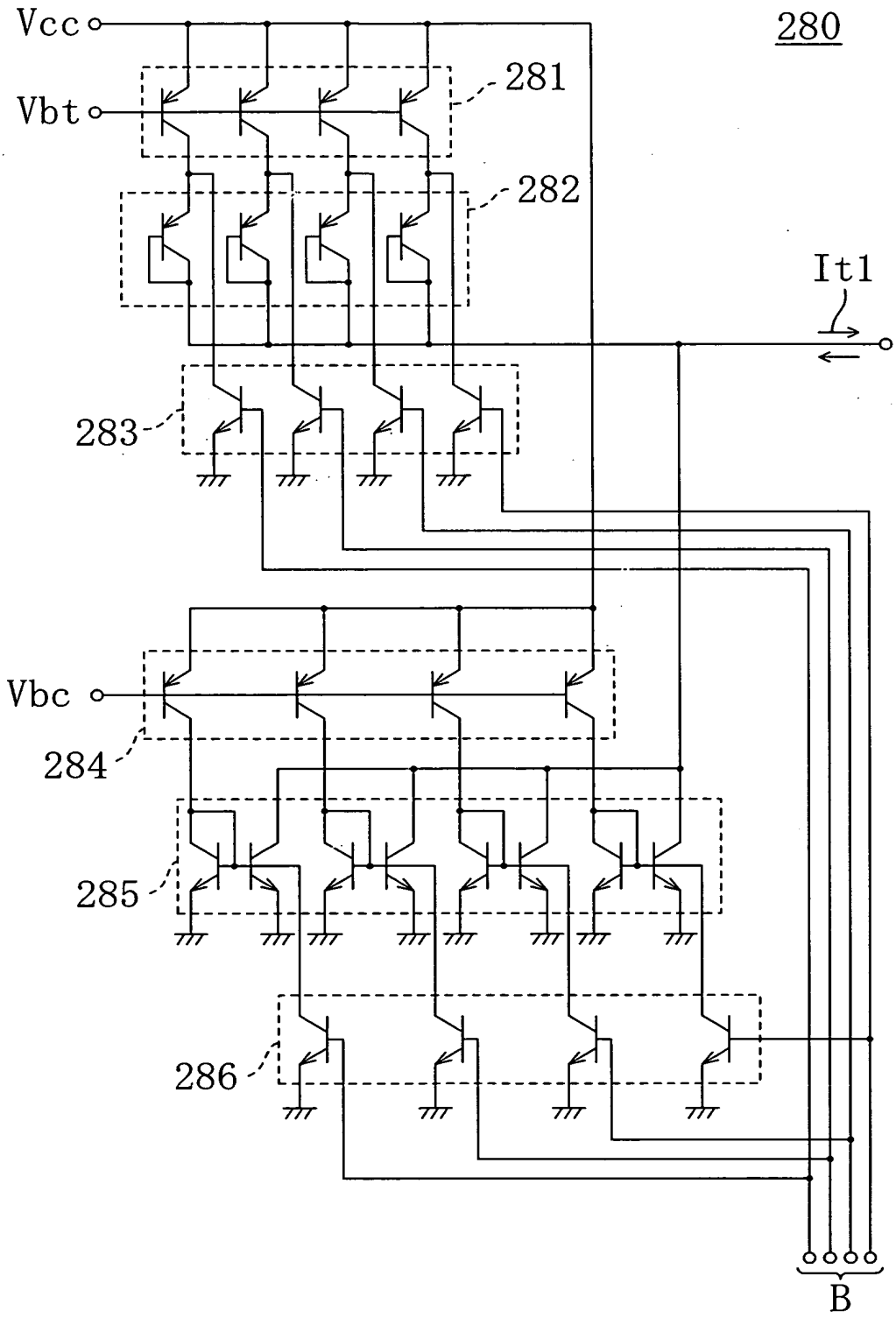

FIG. 7

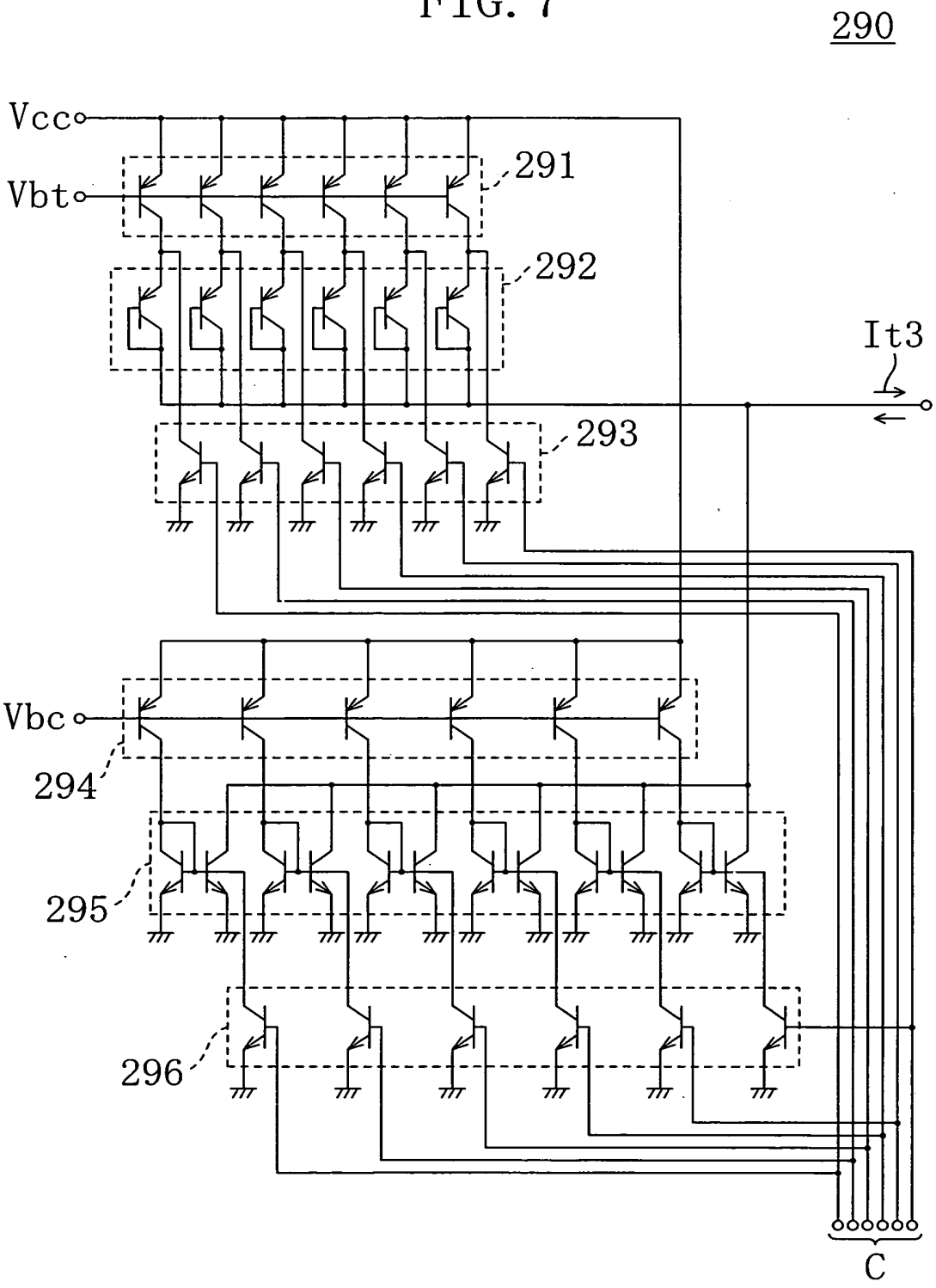

FIG. 8

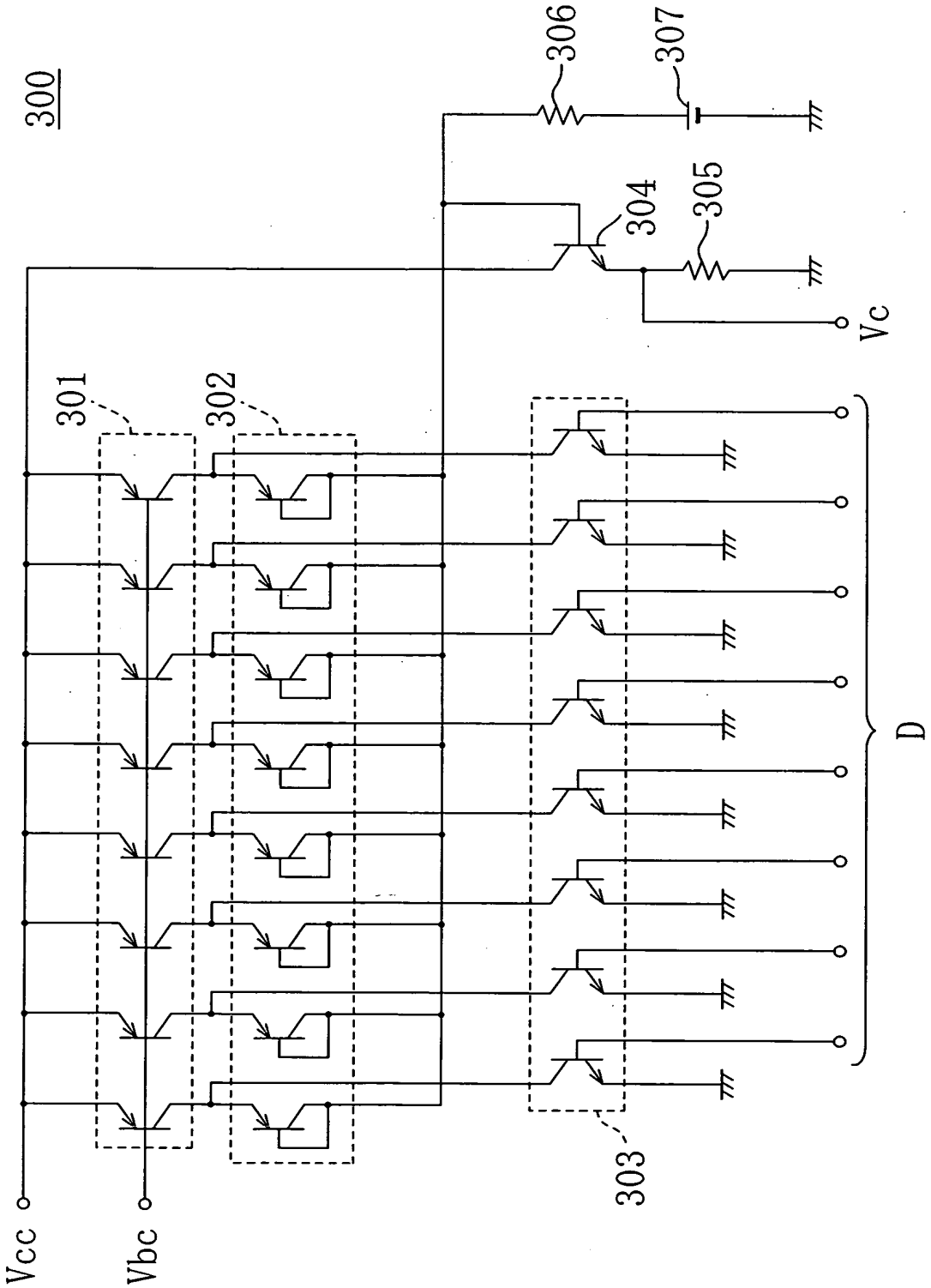

FIG. 9

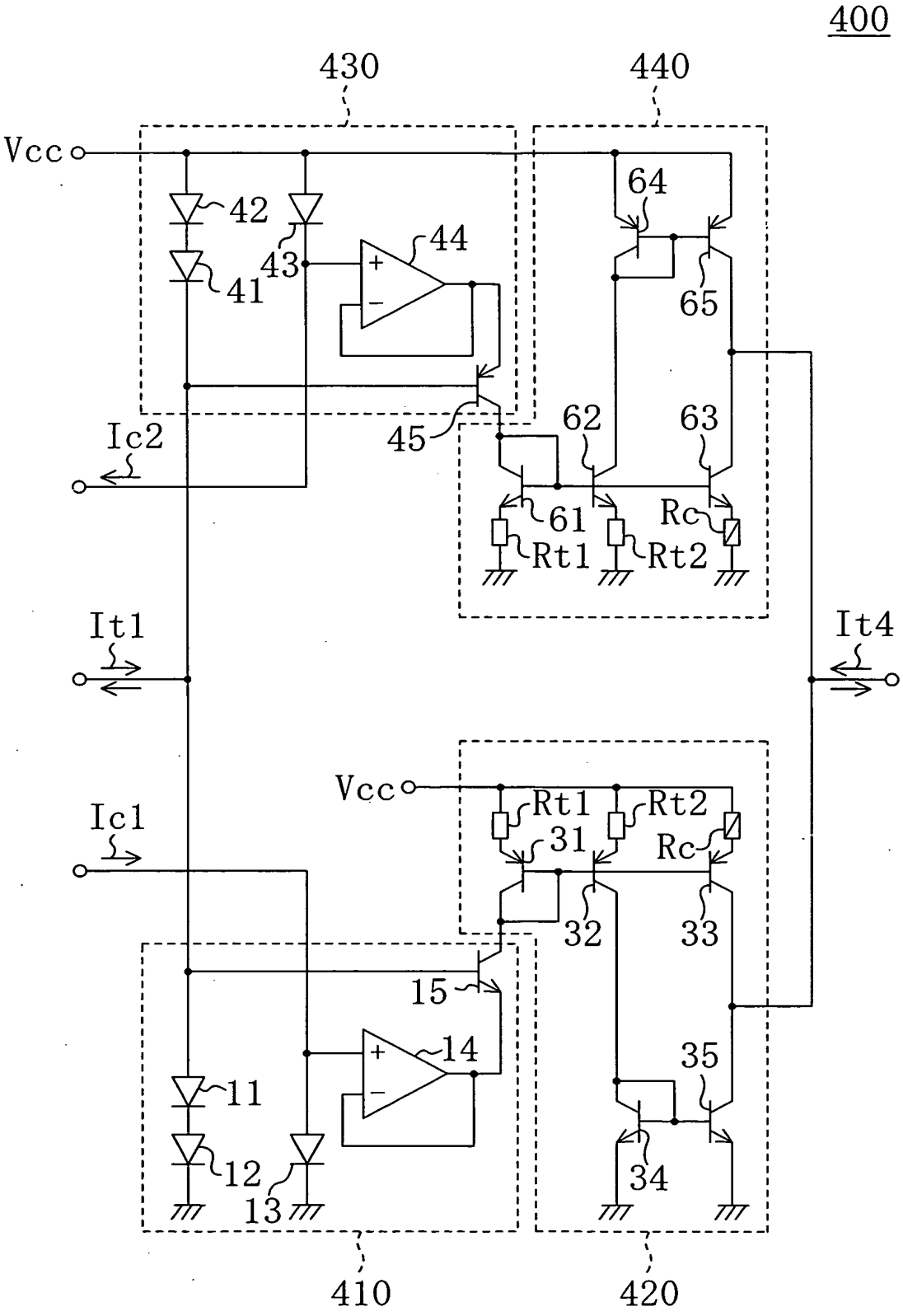
400
430
440
Vcc
42
43
41
44
45
64
65
62
63
61
Rc
Rt1
Rt2
Ic2
It1
It4
Ic1
Vcc
Rt1
Rt2
31
Rc
32
33
15
14
35
11
12
13
34
410
420

FIG. 10A

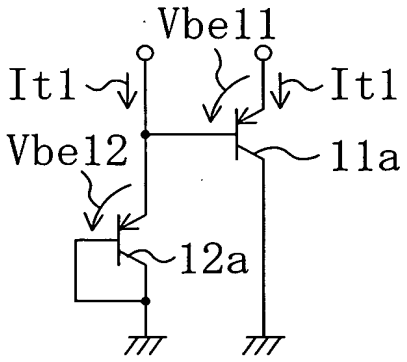

FIG. 10B

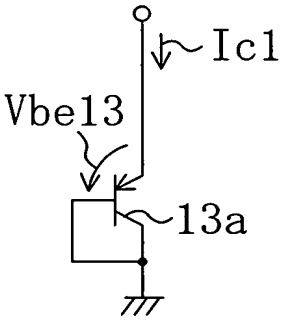

FIG. 11A

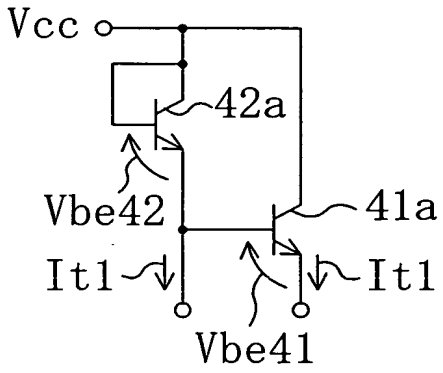

FIG. 11B

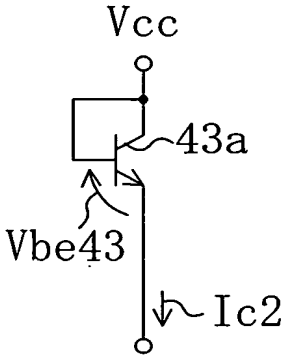

FIG. 12

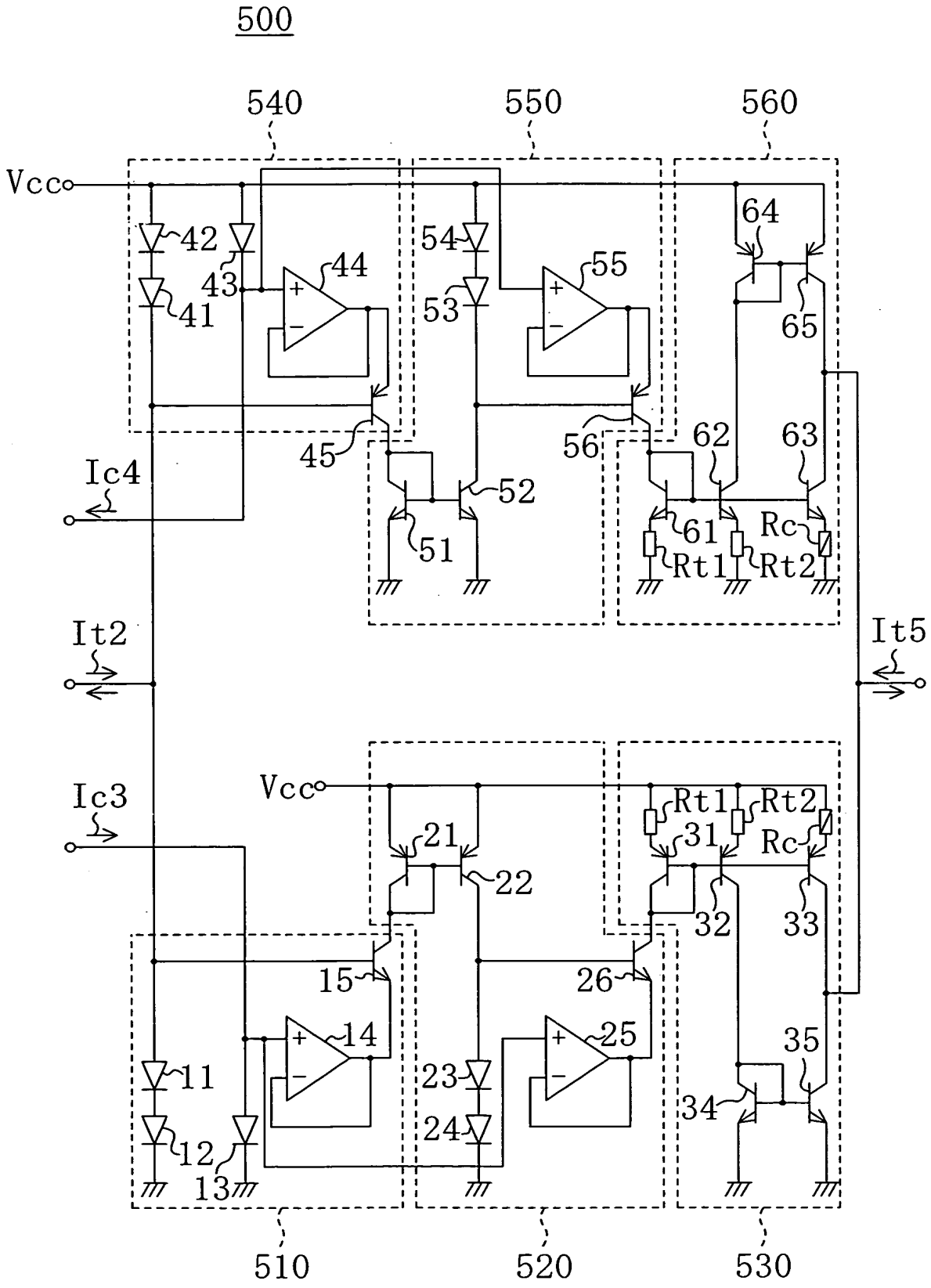
500
540
550
560
Vcc
42
43
41
44
54
53
55
64
65
45
56
62
63
52
51
61
Rc
Rt1
Rt2
Ic4
It2
It5
Ic3
Vcc
Rt1
Rt2
21
31
Rc
22
32
33
15
26
14
25
35
11
23
34
12
24
13
510
520
530

FIG. 13

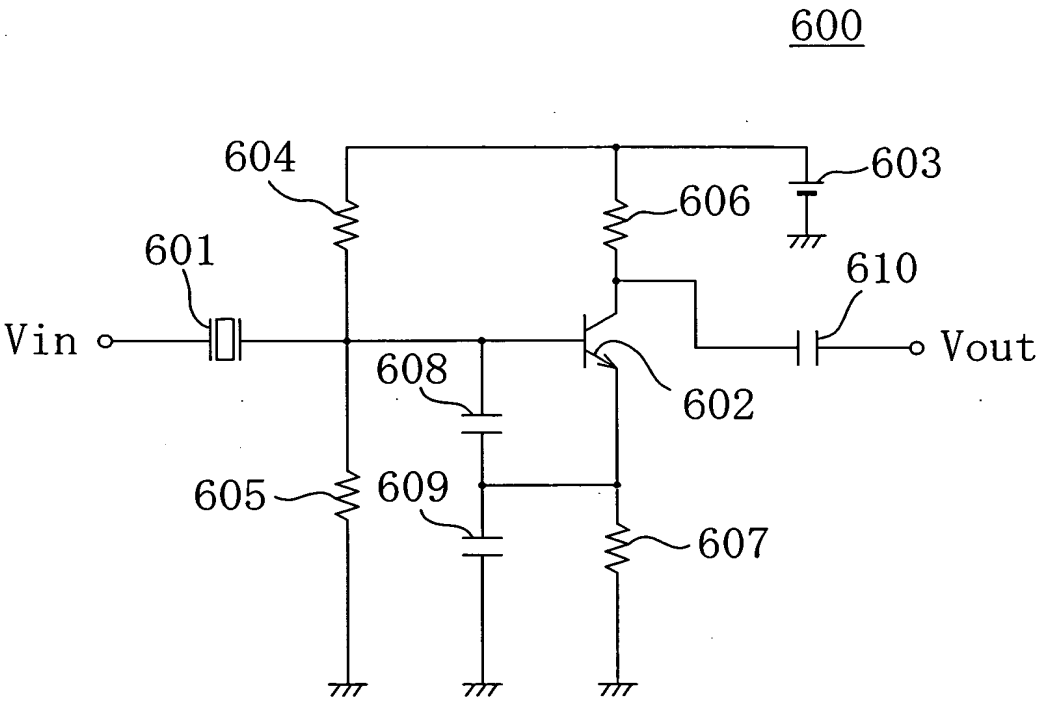

FIG. 14

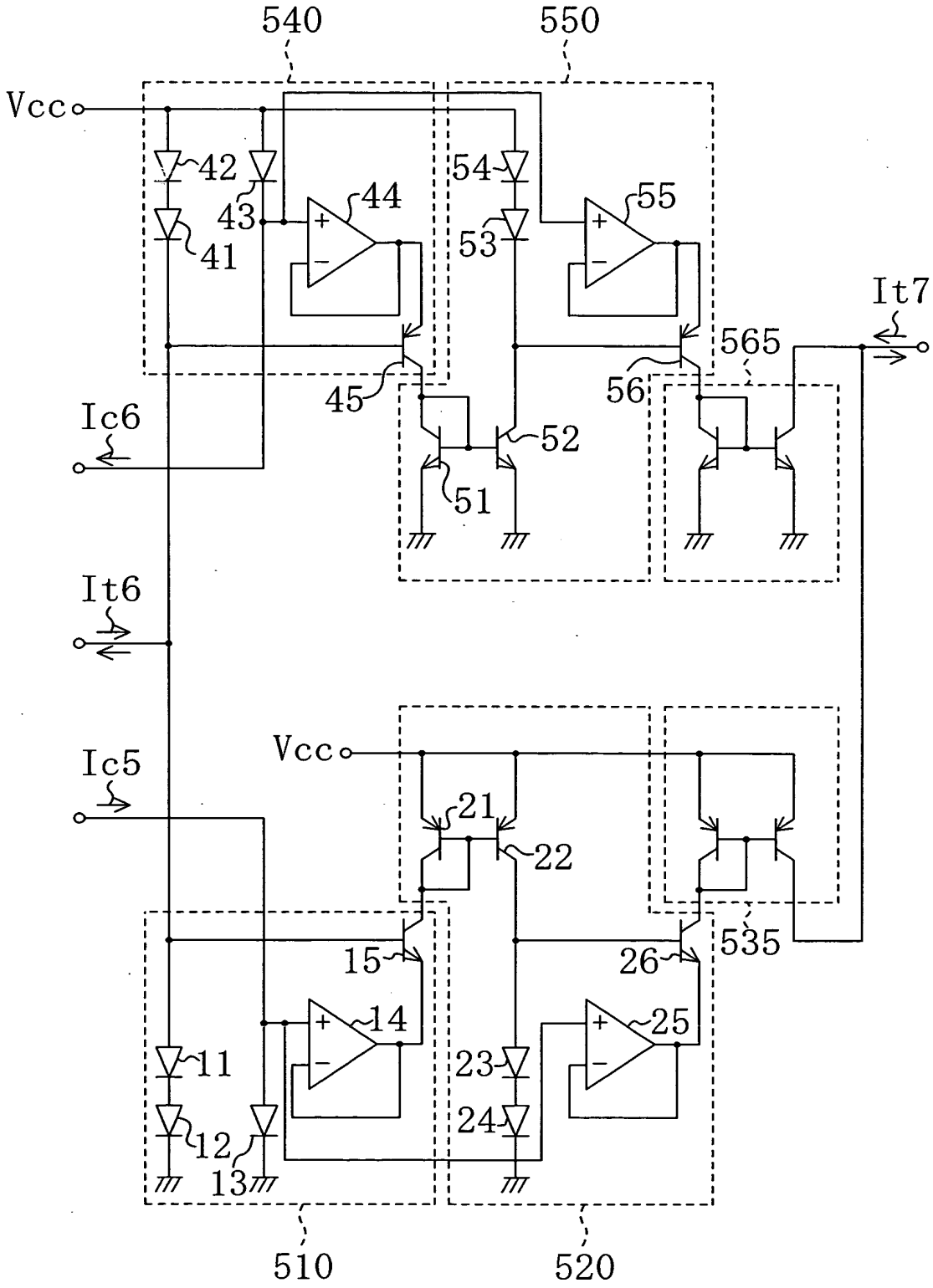
540
550
Vcc
42
43
41
44
54
53
55
It7
565
45
56
52
51
Ic6
It6
Ic5
Vcc
21
22
15
26
535
14
25
11
23
12
24
13
510
520

FIG. 15